

"Directional Microphone System"
 Inventors: Jon C. Taenzer and Roman E. Roginsky
 Application Serial No. 09/610,188

REPLACEMENT DRAWINGS

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Figure 1A
 (Prior Art)

ZERO-ORDER
 MICROPHONE
 (OMNI DIRECTIONAL)

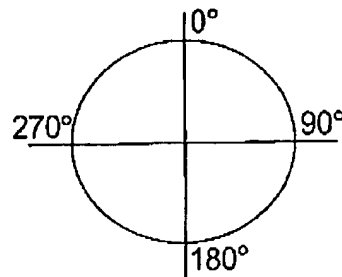


Figure 1B
 (Prior Art)

FIRST-ORDER
 MICROPHONE
 $DR = \tau_D / \tau_P$

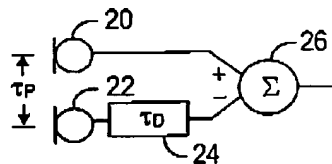


Figure 2A
 (Prior Art)

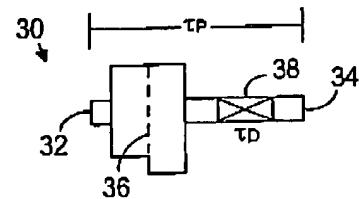


Figure 2B
 (Prior Art)

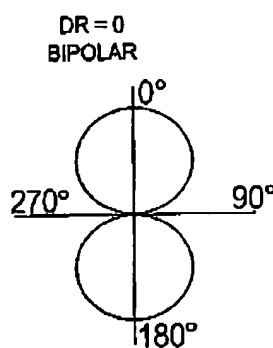


Figure 2C
 (Prior Art)

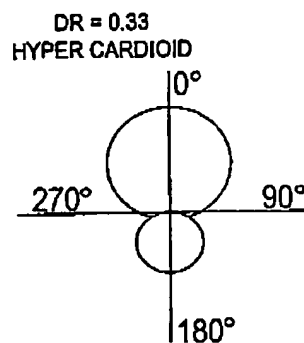


Figure 2D
 (Prior Art)

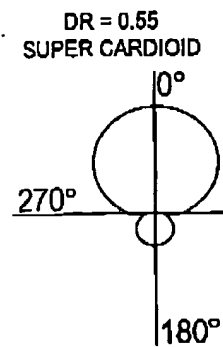


Figure 2E
 (Prior Art)

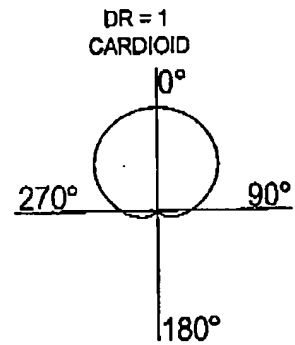


Figure 2F
 (Prior Art)

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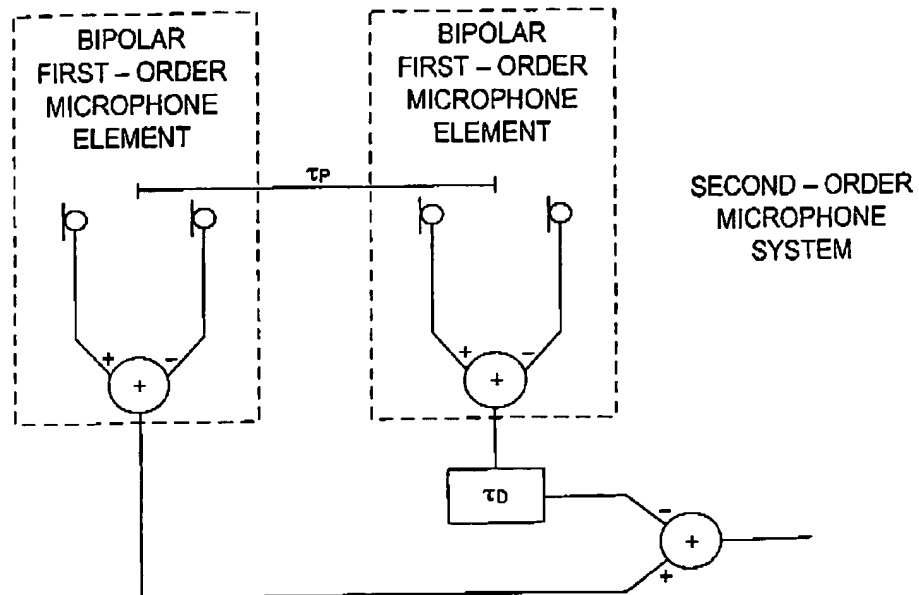


Figure 3A
(Prior Art)

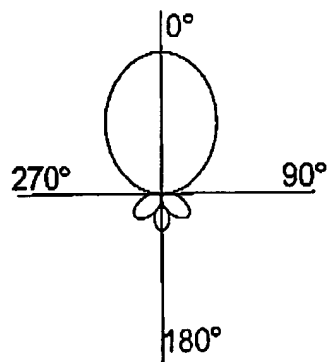


Figure 3B
(Prior Art)

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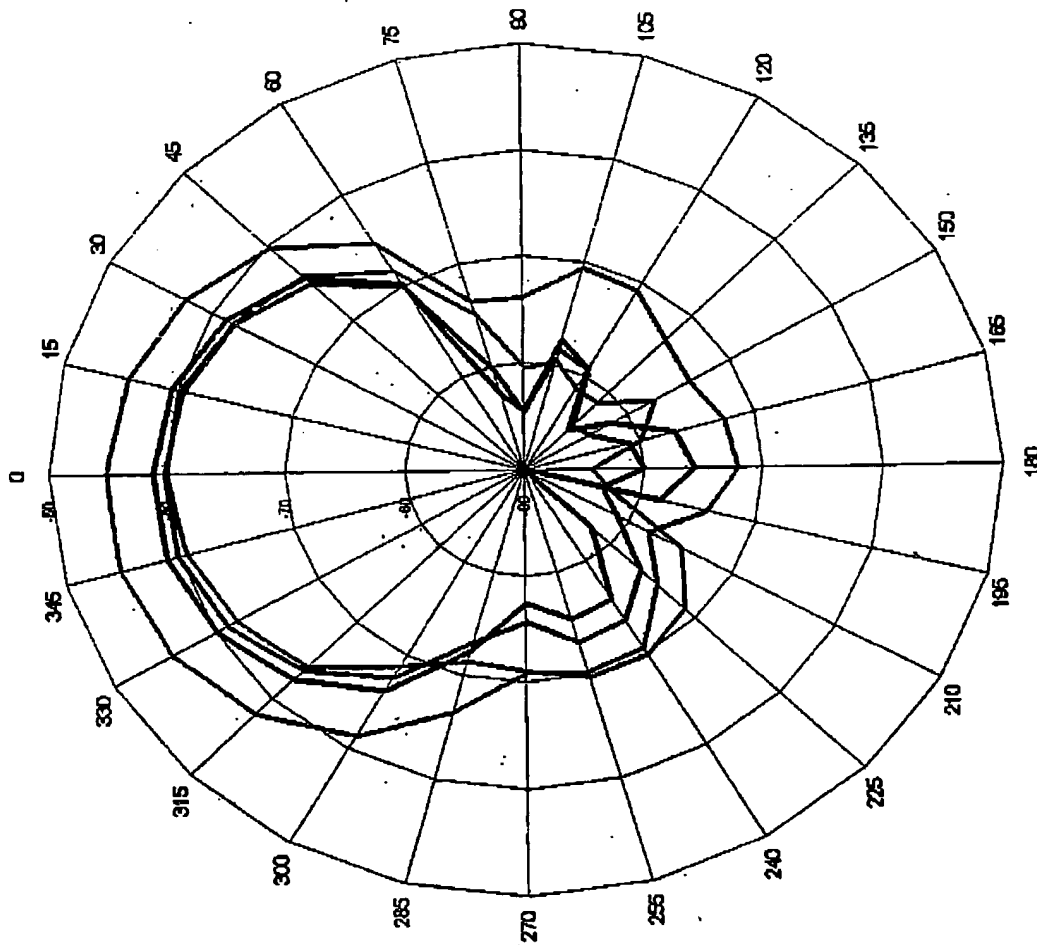


Figure 4A

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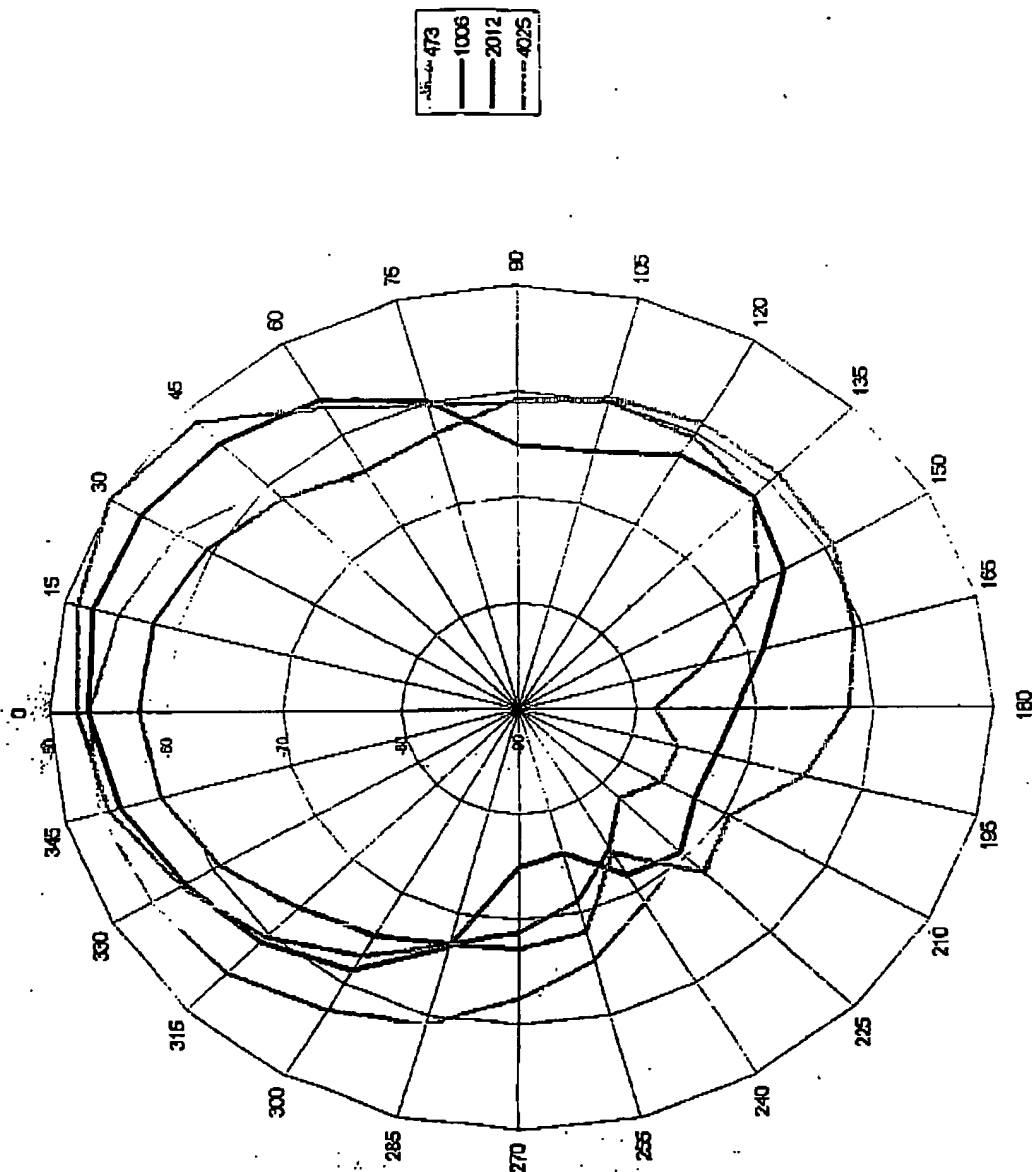


Figure 4B

"Directional Microphone System"
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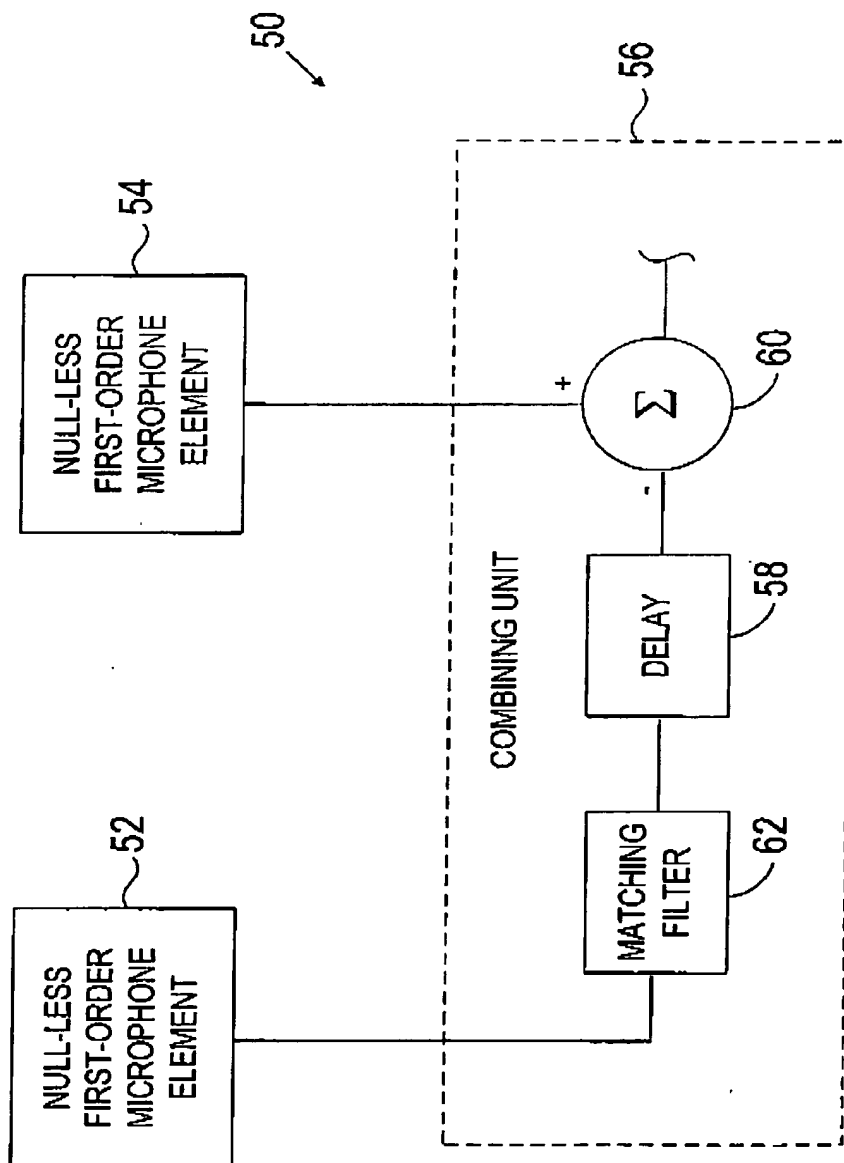


Figure 5

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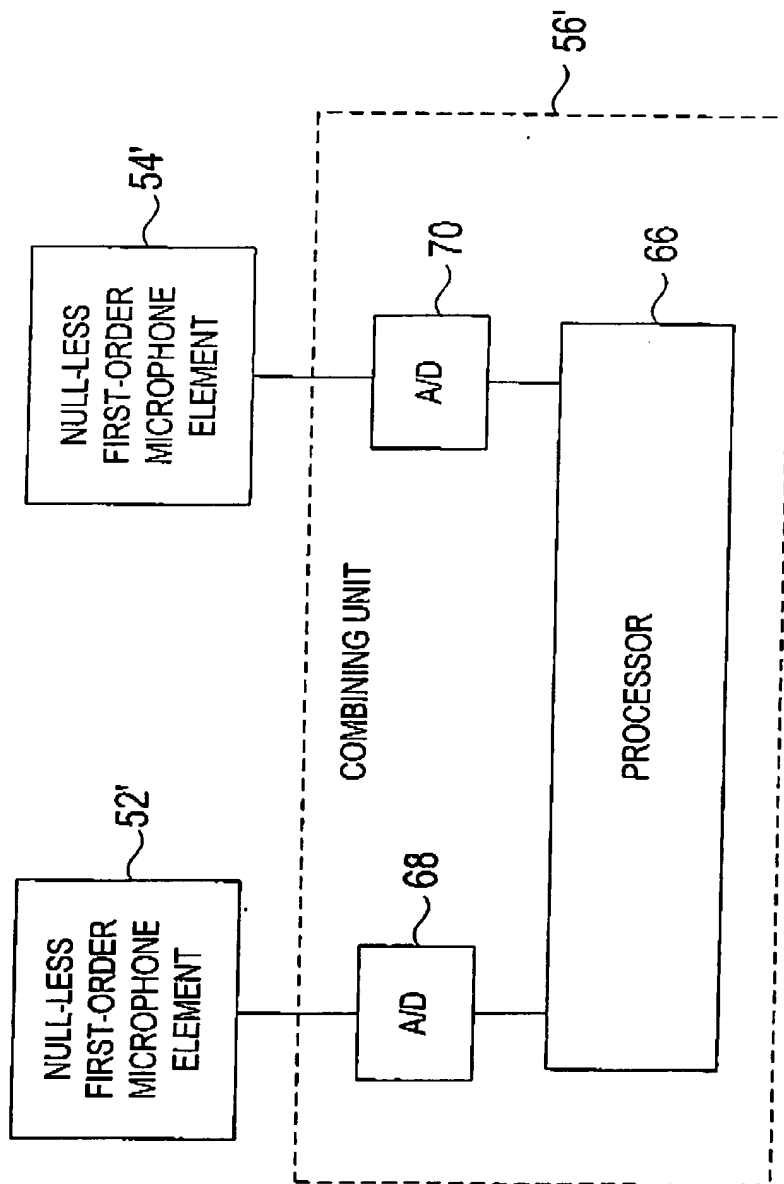


Figure 6

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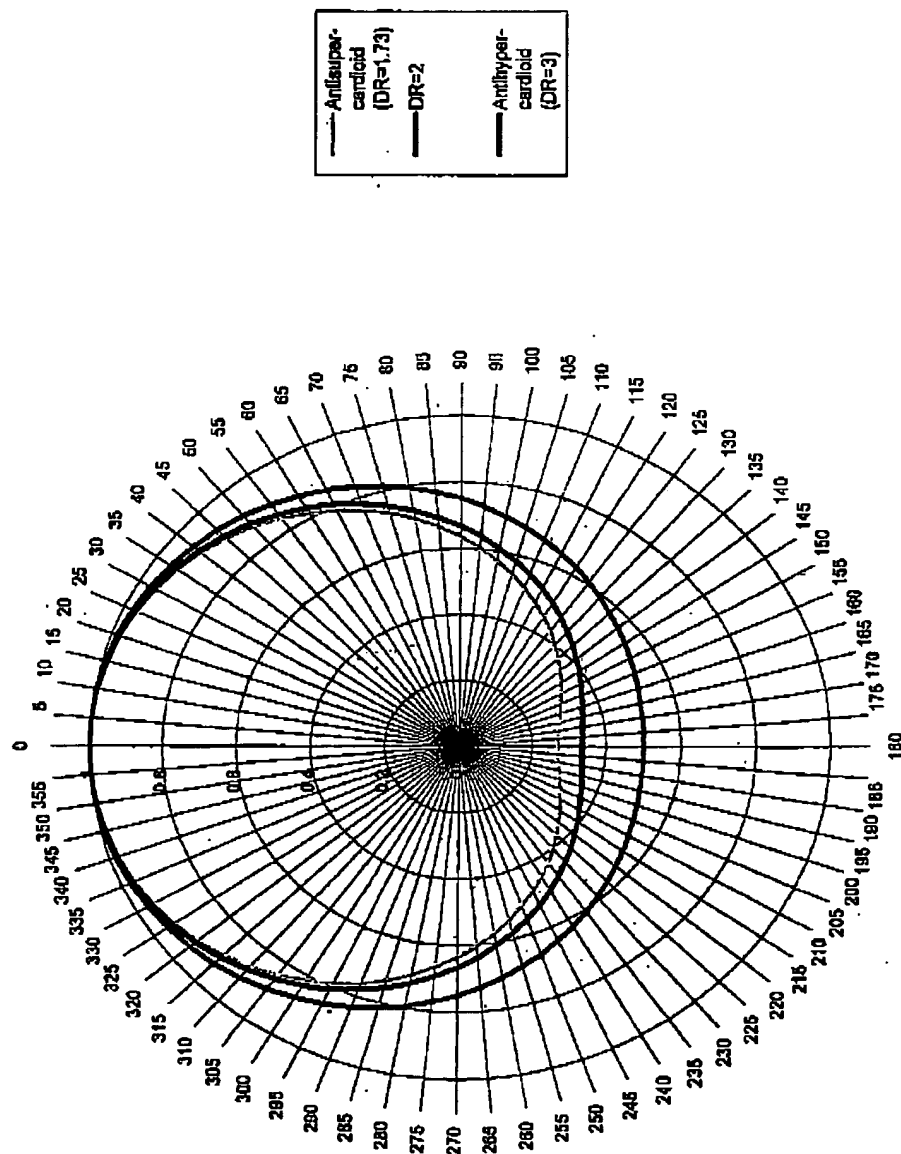


Figure 7

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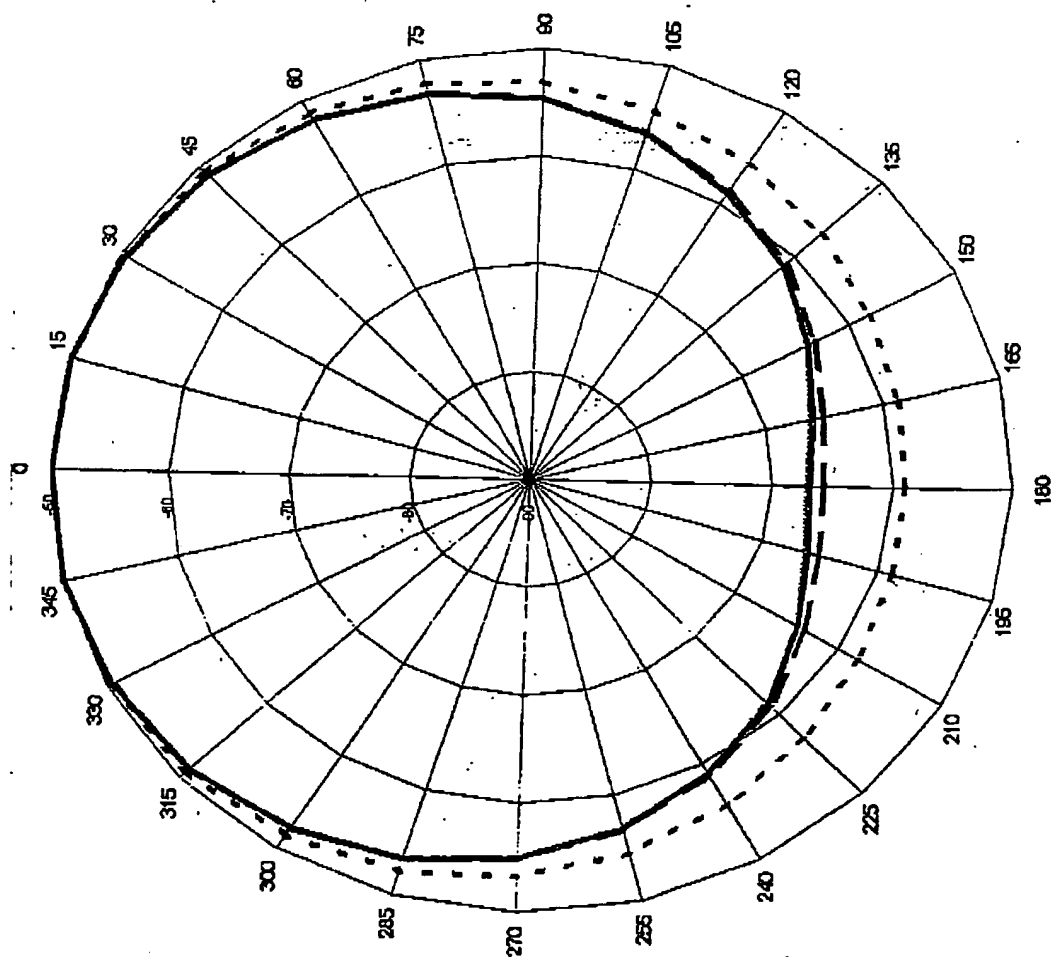
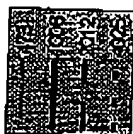


Figure 8A

"Directional Microphone System"
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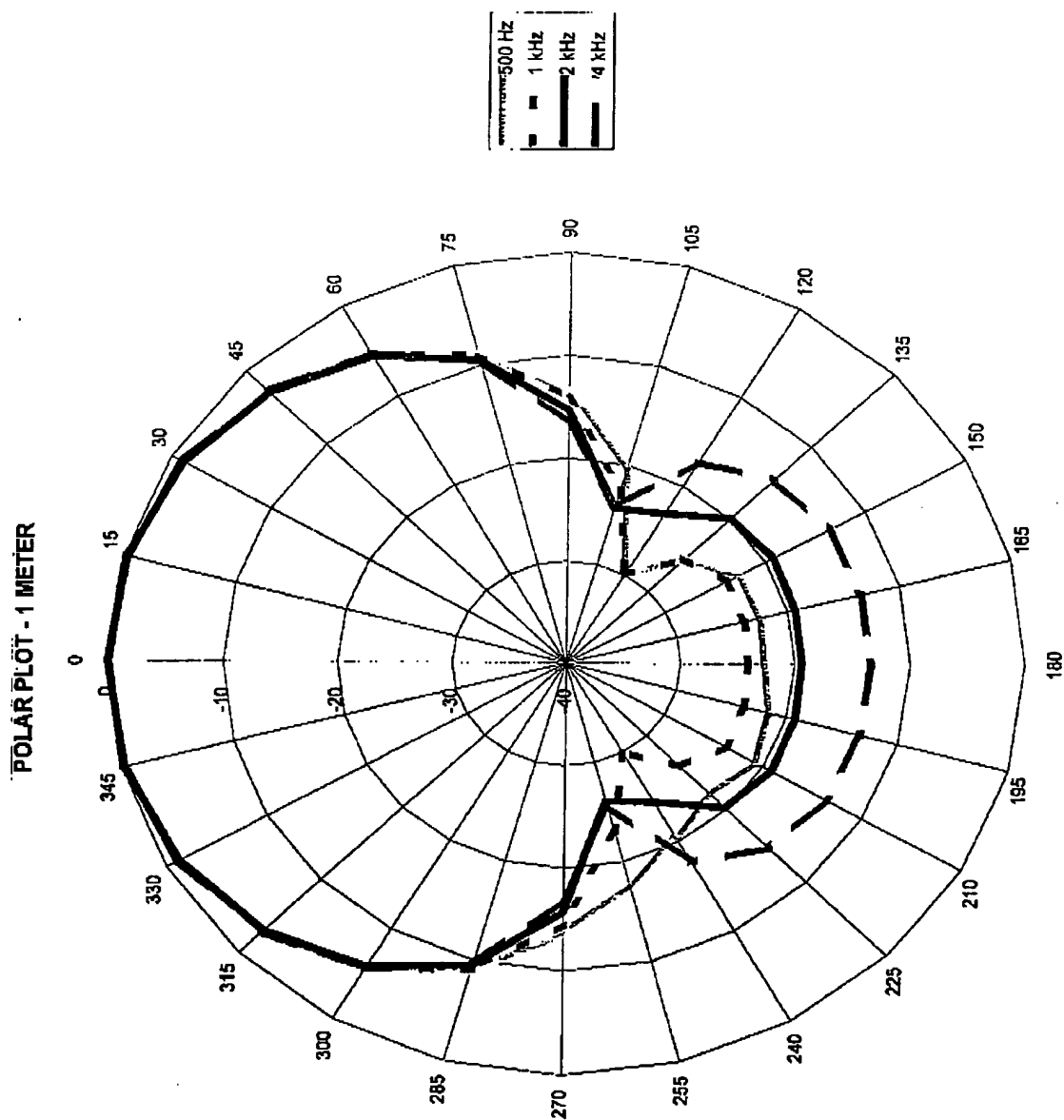


Figure 8B

"Directional Microphone System"
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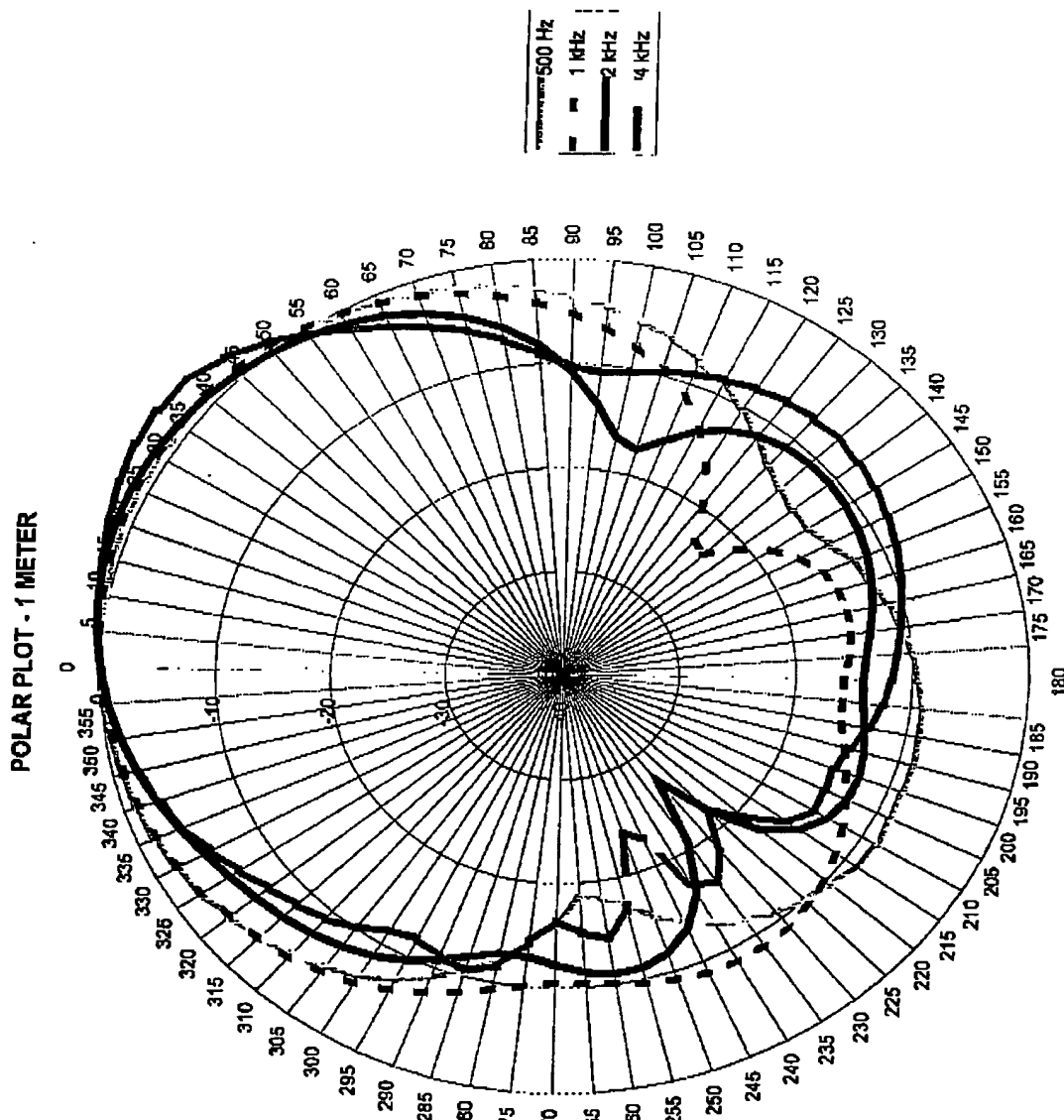


Figure 8C

"Directional Microphone System"
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REPLACEMENT DRAWINGS

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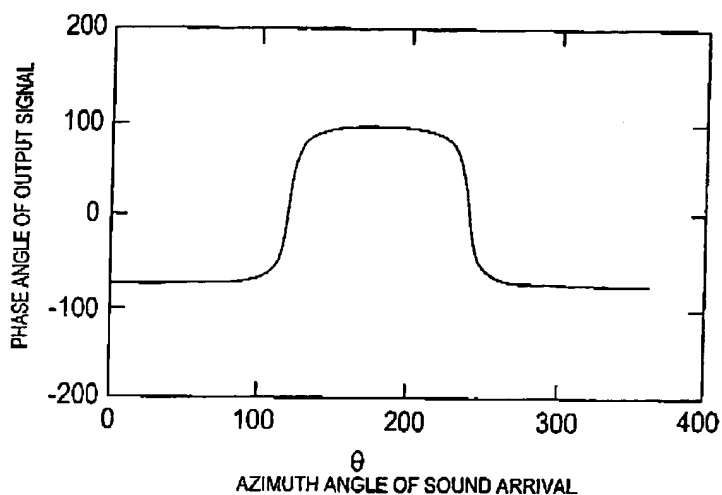


Figure 9A

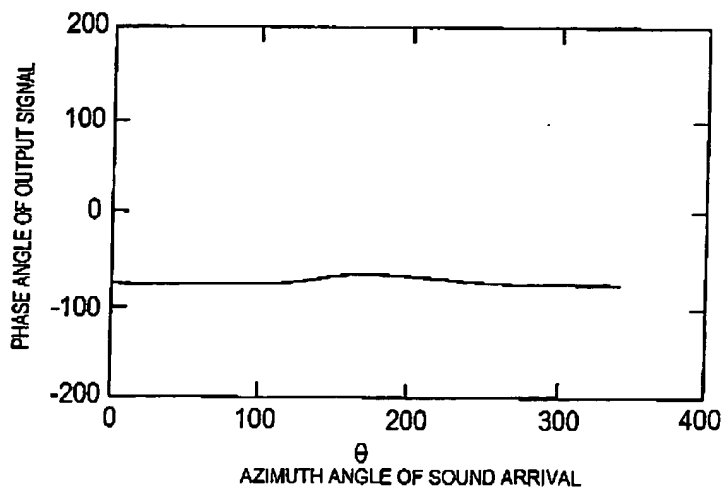


Figure 9B

"Directional Microphone System"
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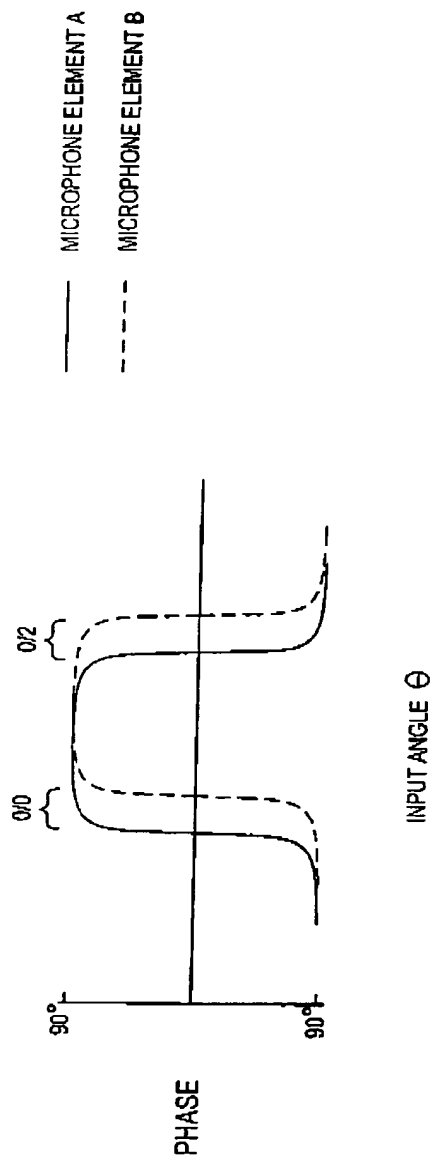


Figure 10

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ELEMENT TYPE	Conventional Elements					New Elements		
	Bipolar (Figure 8) DR=0	Hyper- Cardioid DR=0.33	Super- Cardioid DR=0.68	Cardioid DR=1	Anti- SupCard. DR=1.73	DR=2	DR=2.5	Anti- HypCard. DR=3
Theoretical DI	9.0	8.7	9.3	9.0	7.9	7.7	7.4	7.2
1.5 dB Element Mismatch	5.6	5.4	2.0	3.2	5.8	6.1	6.4	6.5
5° Misalignment	4.6	3.8	2.7	4.6	6.3	6.5	6.6	6.6
2 μ s Delay Error	3.1	2.6	1.8	3.0	5.0	5.4	5.8	6.0
Misalignment and Delay Error Combined	3.8	3.5	2.9	3.6	5.0	5.2	5.6	5.8

Figure 11

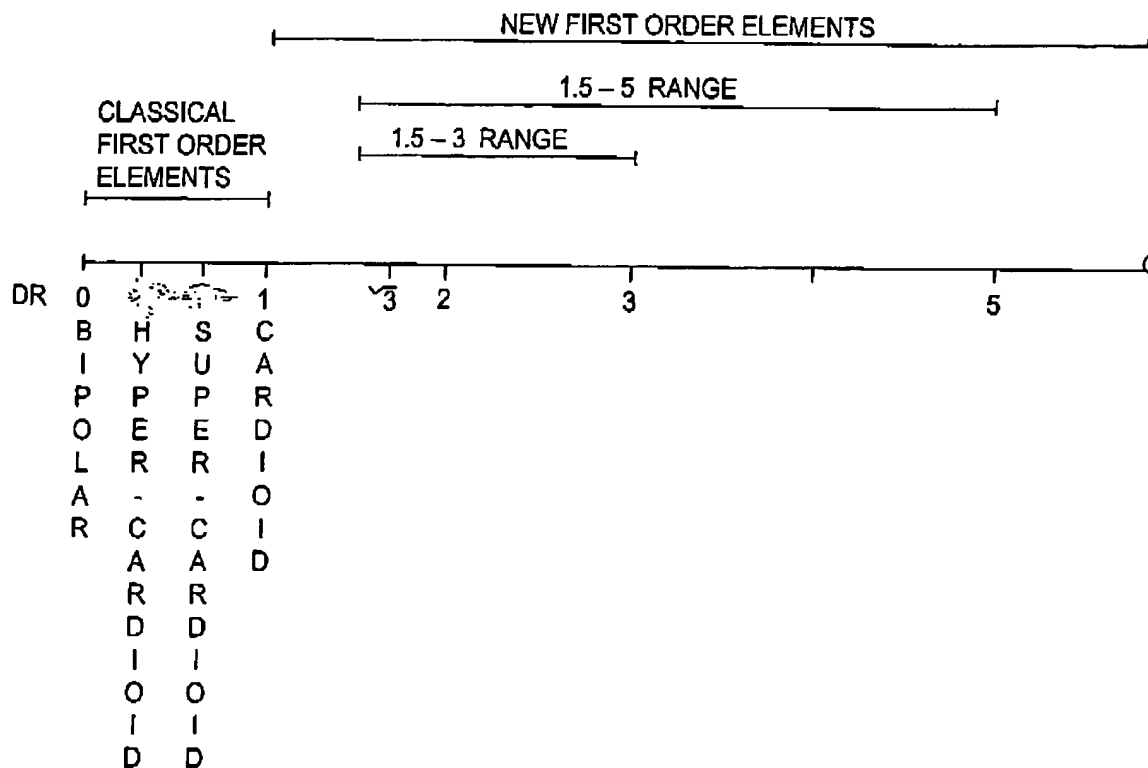


Figure 12

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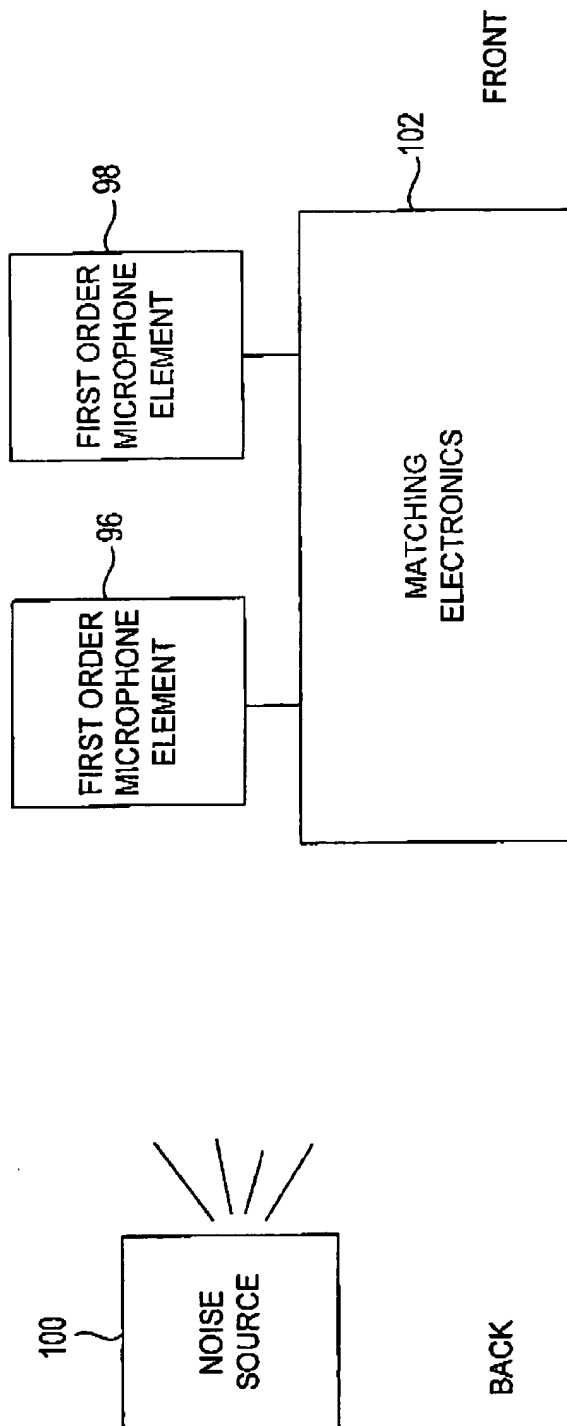


Figure 13